

**TESTIMONY OF MR. ROB BRADLEY
DIRECTOR, INTERNATIONAL CLIMATE POLICY INITIATIVE
WORLD RESOURCES INSTITUTE**

**HEARING BEFORE THE
US-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION
ON
GREEN ENERGY POLICY IN CHINA**

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Thank you for the opportunity to contribute to the deliberations of this Commission.

My name is Rob Bradley, and I am Director of the International Climate Policy Initiative at the World Resources Institute. The World Resources Institute is a non-profit, non-partisan environmental think tank that goes beyond research to provide practical solutions to the world's most urgent environment and development challenges. We work in partnership with scientists, businesses, governments, and non-governmental organizations in more than fifty countries to provide information, tools and analysis to address problems like climate change, the degradation of ecosystems and their capacity to provide for human well-being.

I am very pleased to be here to discuss green energy policy in China. In particular, you have asked for my views on the pledges that China made at the Copenhagen climate conference last December, and how they might affect efforts to address climate change and China's relationship with the United States and the rest of world.

In this testimony, I will make four primary points, each of which I will expand on below:

First, although the headlines have often focused on the disagreements in Copenhagen between China and the United States, Americans should understand that their negotiators achieved some important and long-sought goals at the meeting and during the process leading up to it. In two of the most important developments, China:

- Publicly committed to a specific numerical target of improving its carbon intensity (by 40% to 45% below the 2005 level), which will restrain its future emissions and accelerate its transition to a lower-carbon economy; and
- Agreed to join an international system for biannually reporting national emissions that opens the door to timely and independent examination.

Although we would have liked to have seen even more progress in Copenhagen, it should be noted that not that long ago, many experts would have considered securing even these public commitments unlikely. We also believe that both of these flagship commitments are achievable, but will require China to adopt a suite of policies that go significantly beyond its current efforts to measure and curb energy use and emissions.

Second, since Copenhagen, China has shown no signs of walking away from these commitments. Rather, it has taken substantive action to reaffirm and move forward on them. It appears primarily committed to continuing to work through the existing United Nations negotiating process, but is also active on climate issues in other fora. At the same time, in the years leading up to Copenhagen, China entered into a range of complimentary bilateral agreements and less formal partnerships – including several with the United States – that should only increase its capacity to manage, monitor and curb its energy use and emissions.

Third, China's uncharacteristic decision to take a high-profile – and sometimes highly uncomfortable -- role in global climate discussions over the last few years signals an increasing willingness to expose itself to both the potential risks and rewards of active international engagement. It is clear that China is still feeling its way in the very dynamic climate arena. It is still developing its approach to diplomacy and shaping public opinion on climate issues, with mixed success. Like all countries, its motivations reflect an evolving understanding of national interest on a complex set of interrelated issues. These issues range from concerns about ensuring future energy security and economic growth, to efforts to reduce domestic pollution and establish itself as a key global player in the green energy business sector. Clearly understanding these motivations – many of which are shared by the United States – will be key to identifying areas of both potential conflict and mutual benefit. In addition, there is genuine concern over the risks that climate change poses for China. Chinese policy makers are technocrats, generally educated as scientists or engineers, and understanding of the climate science is relatively high. With large coastal and delta populations, strained fresh water supplies and a host of other issues facing it, China is rightly concerned about the stresses a hotter planet will place on its society.

Finally, China's actions on climate over the last few years only reinforce an idea that this Commission communicated to Congress in both its 2007 and 2008 reports: Technical and economic collaboration between the United States and China will be key to improving energy security for both nations, to developing and driving down the costs of green energy and low-carbon technologies, and to curbing future global emissions. As you reported in 2008, "China and the United States face similar challenges in devising energy policy, securing sufficient energy supplies to support the national economy and the desired standard of living, and addressing such related issues as climate change."

These shared challenges take place in very different economic, cultural and political contexts. Still, it is clear there are a number of common solutions to putting the world on a path to a lower carbon economy. Those solutions, however, will depend in large part on the ability of the world's two largest emitters to work together. In our view, the Copenhagen process has only helped open doors to such collaboration, not shut them.

1) China's Copenhagen Commitments

In Copenhagen, China pledged that it will “endeavor to” take these domestic actions to mitigate climate change:

- Lower its carbon dioxide emissions per unit of GDP by 40 to 45% by 2020 compared to the 2005 level;
- Increase the share of non-fossil fuels in primary energy consumption to around 15% by 2020; and
- Increase forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020 from 2005 levels.¹

In addition, China agreed to language in the Accord that commits developing nations to reporting every two years to a multinational body on their national emissions inventories and actions to limit emissions. It will participate in the process of developing this reporting system, which will have "provisions for international consultations and analysis [of the biannual reports] under clearly defined guidelines that will ensure that national sovereignty is respected."²

China also endorsed language that establishes a target of limiting the global temperature increase to 2 degrees Celsius, and acknowledged that "deep cuts in global emissions" will be needed to achieve this target.

The Accord also commits developed countries to provide developing nations with "new and additional" financial resources of \$30 billion over the next three years to help them reduce deforestation, deploy low-carbon technologies, and adapt to the impacts of climate change. Developed countries also "commit to a goal of mobilizing jointly \$100 billion a year by 2020 to address the needs of developing countries." In comments during the Copenhagen meeting, senior Chinese officials suggested that developing nations in Africa and island nations threatened by rising sea levels should be first-in-line to receive these funds.³

China's Carbon Intensity Target

Since Copenhagen, there has been a great deal of discussion of whether China's flagship commitment -- to improve carbon intensity by 40% to 45% by 2020 over 2005 -- is a significant step beyond “business as usual” and, if so, whether it is achievable. Some skeptics have argued that the target is too easy, because it would simply continue China's gradual, two-decade old trend of improving energy intensity, and would not significantly reduce future emissions when compared to the “business as usual” scenarios developed by climate and economic forecasters.⁴

¹ Letter from Sui Wei, Director General, Department of Climate Change, National Development and Reform Commission of China to Yvo de Boer, Executive Secretary, UNFCCC Secretariat, 28 January 2010.

² Copenhagen Accord, Section 5, as reported in *UNFCCC Report of the Conference of the Parties on its fifteenth session, held in Copenhagen from 7 to 19 December 2009, Advance Version*, FCCC/CP/2009/11/Add. 1, 30 March 2010.

³ See, for instance: Xiaohua, Sun and Li Xing, “China supports amendments to Kyoto Protocol,” *China Daily*, December 15, 2009. It quotes Xie Zhenhua, a senior climate policy official, as saying that China favors giving the first installment of climate change funding to Africa and small island nations.

⁴ See, for instance, comments in Eilpren, Juliet, “China sets targets for emissions cuts,” *Washington Post*, November 27, 2009.

Ironically, other critics have argued that China is unlikely to meet its target because it is too ambitious.⁵

In our view, China's commitment is a significant but achievable step, but it will require China to pursue a suite of policies more sweeping – and more challenging -- than its existing energy-efficiency and green energy efforts.

In part, the new target is significant because China has already harvested some of the lowest hanging fruit in its efforts to improve energy efficiency (which typically also translates into gains in carbon intensity). Since 2005, for instance, the closure of inefficient plants and a major push on efficiency have enabled China to improve energy intensity (the amount of energy used to create a unit of GDP) by nearly 15%.

One of the implications of these gains, however, is that future gains will take greater effort to secure. For example, to meet its new carbon target, WRI analyses suggest China will have to build entirely new systems for measuring and tracking carbon dioxide emissions (rather than just measuring energy production and consumption); develop and impose specific new efficiency or emissions requirements on additional sectors such as buildings and transportation; and retool and strengthen existing programs aimed at transitioning to a lower-carbon economy. For instance, the government is already moving to reforms laws and programs aimed at deploying renewable energy technologies.

Other analysts have reached similar conclusions. “China’s objective seems rather more difficult to achieve than first calculations would suggest,” notes one recent study by European analysts.⁶ And the expert group that has studied China’s energy structure the most systematically and for the longest time – the China Energy Group at Lawrence Berkeley National Laboratory – believes that reaching goal will require substantial actions beyond those already envisioned in most business-as-usual scenarios. “Achieving the goal,” the group wrote in a statement, “will require that China enhances and expands programs and investments in energy-efficient and low-carbon technologies and measures at the national, provincial, and local levels.”⁷

The New Emissions Reporting System

Thanks to the new biannual reporting mechanism agreed on in Copenhagen, the United States and the rest of the world will be able to see if China is on track to meet its carbon intensity goal. The details still need to be worked out, but this is a major, and often overlooked, new development. Ultimately, it should produce a deluge of timely, standardized energy and emissions information that has been sorely lacking in the developing world, and should help us better understand the best ways to monitor, manage and curb emissions.

⁵ See, for instance, Pielke, Roger, “China’s Carbon Intensity Pledge,” Roger Pielke Jr.’s Blog, November 27, 2009 (<http://rogerpielkejr.blogspot.com/2009/11/chinas-carbon-intensity-pledge.html>).

⁶ Jauregy-Nauden, Maite. *Getting the Carbon Out: Tougher Than It Looks. An assesement of EU, US & Chinese pledges*. French Institute for International Relations. February 2010.

⁷ China Energy Group. “Statement of the China Energy Group, Lawrence Berkeley National Laboratory on China’s Recently-Announced Carbon Intensity Target.” (<http://china.lbl.gov/print/154?page=4>)

Here too, however, there are skeptics. They say China's energy and emissions numbers can't be trusted. As a developing country, Chinese measurement and reporting systems are indeed sometimes suspect, as evidenced by recent concerns over food safety information. In recent years, however, China has significantly improved the reliability of its aggregated, national-level energy data – and those top-level numbers are *already* good enough to indicate whether China is making progress on its goal.

There are a number of reasons for the improvements in China's national-level data, according to research done by my colleague Deborah Seligsohn, Principal Advisor to WRI's China Climate and Energy Program. One is that China does a good job of tracking the large energy users – such as large factories and power plants – that produce the bulk of its energy-related emissions (energy use accounts for some three-quarters of China's greenhouse gas emissions).⁸ In part, this is because these facilities are among the easiest places to reap major energy savings, and so have played a major role in China's priority effort to improve energy intensity.

Another is that the more developed Eastern provinces that use the bulk of China's energy – and produce the bulk of its economic output – import most of their energy, and anything that crosses a political boundary in China is easier to document and track. In addition, these provinces tend to have more resources and staff, so their monitoring is better.

Third, because national-level data is aggregated from a number of often independent sources – ranging from individual firms to local and provincial governments -- the statisticians in Beijing are able to cross-check and correct the numbers. It becomes pretty obvious, for instance, if a power company reports burning more coal than a coal mine reports it produced.

As a result of these improvements, Beijing now has systems for reviewing and correcting energy data that are similar to those found in the United States and other developed nations. In the early 2000s, for instance, statisticians noticed an unusual dip in coal production numbers that didn't align with other trends; they first publicly corrected the current numbers and then went back to revise prior-year statistics. More recently, in 2007, some international observers believed that China had misreported a steep drop in electricity use following the global economic downturn. Upon review, however, the trend proved accurate and reflected the way China's economy reacted to the crisis.

It is also worth noting that Chinese officials recently reported that they may fall a bit short of their goal of improving energy intensity by about 20% between 2005 and 2010, in part because of recent stimulus spending (the number may be closer to 18% or 19%). While it is disappointing that the target will be missed (albeit by a small margin) the fact that they are willing to publicly discuss this “bad news” underscores a growing commitment to the kind of transparency envisioned by the Copenhagen Accord.

China is also now moving to establish a national system for tracking emissions, not just energy use. It completed its first national greenhouse gas inventory in 1994, with help from the U.S. Department of Energy. Two years ago, it began working with the U.S. Environmental Protection

⁸ Seligsohn, D. et al. China, the United States and the climate challenge. WRI Policy Brief, World Resources Institute, October 2009. Page 3.

Agency and European experts, among other foreign collaborators, to develop a new emissions inventorying system.

China is developing these reporting systems, in large part, due to its own needs to evaluate and implement effective policies. They will, however, play a significant role in enabling China to meet the Copenhagen Accord's biannual reporting requirement. As a result, it is important that China, the United States and other parties move quickly to work out the details of the reporting system agreed on in Copenhagen, so that the world can begin to benefit from more robust statistical transparency.

China's Actions Since Copenhagen

Because the Copenhagen Accord is not a mandatory agreement, some observers have worried that China might back away from its commitments. So far, however, China has shown no signs of this. Rather, it has taken a number of steps to reaffirm its pledges and move forward.

Since the meeting, for instance, Chinese officials have met with counterparts from India, South Africa and Brazil and other key developing nations to publicly reiterate their support for the agreement. China also officially filed its commitments with the United Nations, and reaffirmed its commitment to participating in the United Nations Framework on Climate Change (UNFCCC) process. This is welcome. While the frustrations of the UNFCCC process in Copenhagen have left many jaded, the Copenhagen Accord itself identifies this process as the space for new reporting rules and review procedures to be adopted.

China also has been focusing attention on the domestic measures that will be needed to make its Copenhagen commitments a reality. Almost immediately after Copenhagen, for instance, China's legislature amended its renewable energy law to strengthen efforts to promote wind and solar projects. Among other steps, it increased the fines that utilities can face for failing to buy energy from green sources, or connect them to the grid (a problem that has cropped up during the recent dramatic growth in China's wind sector). In addition, Chinese officials have been moving to embed the 40% to 45% carbon intensity gain in the next Five-Year Plan, which begins next year. We expect that plan to intensify existing efforts to improve energy efficiency and promote green energy generation, as well as to allocate shares of the intensity target to different parts of the economy. In February President Hu brought intense internal debate to a close by reiterating the importance of controlling carbon emissions and confirming the target announced last year.⁹

China's International Collaboration

In addition to these domestic moves, China continues to participate in both formal bilateral agreements and less formal international collaborations on energy and climate issues that complement its Copenhagen commitments.

This testimony is too short to capture the wide scope and range of these activities, but many people are unaware that the United States alone has an extensive, two-decade-old history of close collaboration with China on energy and climate issues. Since the 1990s, for instance, experts

⁹ Chen, Stephen. "Politburo Set on Carbon Emissions Target," South China Morning Post, February 26, 2010.

with the U.S. Department of Energy, other agencies and private U.S. companies have worked with the Chinese on a wide range of key issues, including:

- Developing new efficiency standards for dozens of home appliances and developing labels that Chinese consumers now use to compare the potential energy savings of various models.
- Providing technical assistance on improving the efficiency of autos and buildings.
- Creating systems for monitoring energy use and inventorying emissions.

Last November, the U.S. and China expanded these relationships in announcing a series of high-level cooperative agreements aimed at promoting clean energy.¹⁰ They include plans to establish a new U.S.-China Clean Energy Research Center, and joint efforts to accelerate the deployment of electric vehicles, renewable energy technologies, “smart” electrical grids, and carbon capture and storage systems.

Overall, such efforts reflect recognition that China, the United States and Europe see mutual benefit in many technical areas. There is broad recognition, for instance, that China can benefit from the technical expertise and experience that the U.S. and Europe have developed in improving energy efficiency, monitoring emissions and deploying market-based incentives for energy savings. At the same time, developed nations see that China offers a unique laboratory for testing and driving down the global costs of low-carbon technologies such as high-efficiency coal-fired power plants, and carbon capture and sequestration systems. The importance of these collaborations in realizing the goals expressed in Copenhagen cannot be overstated.

China’s Stance on International Engagement on Climate

China’s uncharacteristic decision to take a high-profile – and sometimes uncomfortable -- role in global climate discussions over the last few years signals an increasing willingness to expose itself to both the potential risks and rewards of active international engagement.

As one China scholar has noted, the Copenhagen process “put China in a position it generally seeks to avoid – as a central, highly visible player on a major global issue.”¹¹ That decision did give China greater leverage in the process, and the opportunity to demonstrate constructive international leadership in moving the talks forward, such as when President Hu Jintao appeared before the United Nations to announce that China would commit to a specific numerical target for improving energy intensity.

The leadership role, however, also meant that China shouldered the difficult task of trying to bridge very real differences within the developing world that it claimed to represent. It also meant it increased the risk of shouldering some of the blame if the Copenhagen talks appeared to “fail.” Indeed, although we do not believe the process failed, it is clear that China left Copenhagen without the clear public relations success it sought. . Press coverage in the developed world was quite critical of China’s actions, and even supposed allies from developing

¹⁰ “U.S.-China Clean Energy Announcements,” White House press release, November 17, 2009.

¹¹ Lieberthal, Kenneth G. “Climate Change and China’s Global Responsibilities,” Up Front Blog, Brookings Institution, December 23, 2009.

nations criticized Chinese officials for not being entirely constructive or diplomatically agile during the talks, which exposed numerous fault lines – apparently even within the Chinese delegation itself. The bottom line, however, is that in the end China helped forge some meaningful compromises in Copenhagen. And its actions since suggest that it will use what it has learned through this sometimes bruising process to fine-tune its future role in the climate arena – but not abandon it.

The fact that China is emerging as a tough but engaged negotiating partner on climate is good news for the United States. But it is important to recognize that China's commitment to improve its carbon intensity is not an act of global charity. Many of China's leaders are technocrats originally trained as engineers, scientists or economists. They are comfortable with both climate and economic data, and understand that they cannot maintain growth, reduce poverty and ensure energy security without conservation of resources. They also accept that energy-related pollution is choking off growth and producing social unrest. They know climate change will undermine agricultural productivity and cause flooding in south China and along the coasts. They understand that China must try to do what no other large developing nation has ever done – grow its economy while curbing emissions. Finally, they recognize that this challenge also presents an unprecedented opportunity to seize a leadership role in an emerging green energy economy, but they can't do it alone.

Understanding these motivations can help both the United States and China minimize conflict and seize meaningful opportunities for progress. These are, in fact, still early days in forging a global approach to slowing emissions, and China's shift in just the last few years from relative bystander to reluctant leader indicates just how unsettled the playing field remains. Just as it would have been hard to imagine just a few years ago that China would publicly commit to improving its carbon intensity by 40% or more, it is perilous now to predict future shifts in China's international stance, so we should remain open to a variety of paths.

With that in mind, we would offer the following recommendations for this body:

In order to encourage China and others to meet their commitments – and make the United States a competitive leader in the emerging green energy market -- Congress should move promptly to adopt climate legislation that meets an emissions goal of at least in the range of 17% below 2005 levels by 2020, in line with the commitment made in Copenhagen. Adopting domestic climate legislation will be essential to enabling the United States to compete – globally and in China – in a the low-carbon economy; by promoting clean energy at home, the U.S. also positions itself to be a global leader.

- Congress should authorize funding for sustained bilateral cooperation with China on clean energy issues. Specifically, Congress must commit sustained funding to US-China research efforts, particularly the recently established China Energy Research Center, which will need to be fully funded in future years to achieve its goals. It is also important that, as the U.S. works with China to develop these joint programs, U.S. agencies staff up in China. Congress should enable the Administration to increase the clean energy personnel in the Department of Energy's Beijing office, (at the moment only one of the American staff there

works on energy), and enable the Environmental Protection Agency also to open a Beijing office.

- The United States must continue to engage with China on climate and energy issues in the widest range of fora. The United Nations process is clearly not the only forum for constructive engagement, and the U.S. should remain ready to seize opportunities to influence and better understand China's approach to curbing energy use and greenhouse gas emissions whenever possible.
- Quickly establishing the "clearly defined" guidelines for the new biannual reporting requirement should be a high priority for the United States. We expect these negotiations to be difficult, but the potential for progress is significant.
- Congress should ask the Administration to report on: its cooperation plans with China; its strategy for meeting the goals expressed in Copenhagen; its priorities and benchmarks for related research, development, and deployment; and its recommendations to Congress for supporting policies.
- Congress should move to support the Administration's call for expanding U.S. exports of clean technologies. In particular, it should enable an increase in the share of financing from the Export-Import Bank and other agencies that goes to support U.S. business efforts in capturing a greater share of the market for environmental goods and services. (Although the market for environmental goods and services grew 20% from 2002 to 2007, the share of United States exports in key markets has remained steady or fallen, while China increased its share.)

We also reiterate past Commission recommendations that:

The United States continue to seek collaboration with China on technical issues, including programs that develop and deploy new low-carbon technologies and seek to lower the costs of these technologies globally. In particular, Congress should allocate resources that would allow the Department of Energy to establish additional US-China research centers on a broader range of transformational technologies.

Congress encourage greater opportunities for public-private cooperation between the U.S. and China in the development and deployment of low-carbon technologies. In particular, there is an urgent need to work with businesses in the U.S. and China to address non-technical issues affecting technology demonstration, such trade and intellectual property rules, standards and certification procedures, education and training of personnel, and best practices. Congress should ask the Administration for for a report on its plans to address these issues.

As the United States seeks new ways of engaging with a China that is increasingly important to the global economy and environment, climate change policy can be an opportunity for cooperation rather than conflict. China's emergence as a major player in world diplomacy will not be smooth, and its leaders are learning on the job on a huge range of issues. On climate and

energy policy, however, the interests of the two countries are far more similar than they appear. Copenhagen, for all its frustrations, has opened the door for deeper and more constructive cooperation.